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## CURRENT SUPPORT BRIEF

KHRUSHCHEV ADVOCATES DUBIOUS FARMING PRACTICES

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Khrushchev, apparently motivated by lack of significant progress in agricultural production during the first three years of the Seven Year Plan, has recently recommended significant but dubious changes in farming practices. At a series of regional agricultural conferences following the 22nd Party Congress, he vigorously attacked the practice of "clean fallowing" and the "ley," or grassland system of farming and called for their reduction or elimination in favor of more intensive cultivation.\* These proposals for bringing "hidden reserves" into play quickly and cheaply could significantly increase agricultural production in the near future but would likely jeopardize the long term prospects of Soviet agriculture.

Clean fallowing, though not extensively practiced in the USSR in recent years, has been acclaimed by many Soviet scientists as a partial answer to the low yields caused by weed infestation and frequent droughts in the arid New Lands region. A detailed research study of the future development and distribution of crops in the various regions of the Soviet Union, published by the USSR Academy of Sciences in 1959 on the instructions of the State Planning Committee and the Ministry of Agriculture, stated concerning further development of the New Lands region:

"...measures have to be taken to raise the level of agriculture...Such measures include...the use of clean fallow in crop rotation...Clean fallow and a system of soil treatment guaranteeing the accumulation and retention of soil moisture are the priority measures for assuring a more or less stable yield of agricultural crops..." 1/

Clean fallowing has a recognized place in increasing and stabilizing crop yields in Canada; Canadian experience indicates that the Soviets have already been sowing a dangerously large proportion of cropland to grain in the New Lands. In the Canadian spring wheat belt--an area with physical and climatic characteristics similar to those of the New Lands--clean fallow land accounts for 30 to 40 percent of the total cropland. In contrast, in 1959 only about 10 percent of the cultivated land in the New Lands area was in fallow. 2/

Failure to institute proper crop rotations in the New Lands has already been reflected in decreasing yields. Pressure on local officials rapidly to increase grain production has produced a vicious circle--the area of fallow has not been increased because yields have been decreasing due to the weed problem and depletion of the soil--which is due in part to the inadequate area in fallow.

\* Clean fallowing is a practice whereby the land is not planted for a growing season and is cultivated only as needed to prevent weed growth. The practice controls weeds and permits the accumulation of moisture in the soil, bringing about higher and more stable crop yields. Under the "ley" system perennial grasses are planted for several consecutive years and then alternated with cultivated crops.

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Khrushchev has not categorically rejected all clean fallowing. However, he has significantly modified his stand reflected in his June 1958 plenum statement reprimanding officials for failing to include clean fallow in crop rotations in arid zones. In a November 1961 speech at a conference of New Lands agricultural workers in Tselinograd he stated: 3/

"...Speaking from the point of view of prospects for development of farming...the less clean fallow the better. It would be best if there were none at all, as long as there is a good harvest."

Khrushchev has proposed that cultivated crops--corn, sugar beets, peas, and beans--should replace clean fallowing in the crop rotation.

Further reductions in clean fallow in the New Lands will probably lead to a further deterioration in the long term prospects for agriculture in those regions. In addition to the problems of inadequate moisture accumulation, weeds, and soil depletion, additional burdens will be placed on farm machinery which is already in short supply in the Soviet Union. In the short run, crop production in the New Lands is very dependent upon the weather. If rainfall during the growing season is above average, then a reduction in fallow, with a corresponding increase in sown area, would be likely to lead to increased production. Should one drought year follow another, the situation would be immediately worsened with severe wind erosion as a real threat.

#### The Ley System

Although Khrushchev has been relatively cautious in his attacks on clean fallowing, he has unequivocally attacked the ley system of agriculture. At the December 1961 conference of non-black soil zone agricultural leaders, Khrushchev commented that in order to produce large amounts of meat and milk on a given amount of arable land "...it is necessary first of all to get rid of the ley system of farming... It is our duty to reorganize the farming system on revolutionary lines. The dead system of ley farming must be opposed..." 4/

Essentially, the ley system which was developed by the noted Soviet agronomist, V. R. Williams, calls for alternate periods of grassland and cultivation, with a minimum of 2 to 3 consecutive years of perennial grasses and clovers to be included in crop rotations averaging about 7-9 years in length. Under Stalin, the ley system was indiscriminately introduced in all the agricultural areas of the USSR. However, following Stalin's death, the system was discarded in those areas where it was clearly not suited, chiefly the semi-arid zones.

Grasses currently occupy an important place in Soviet agriculture but are not as prevalent as strict adherence to the ley system would require. About 17-18 percent of Soviet sown acreage was in perennial and annual grasses and clovers in 1959. However, in the Northwest, they averaged one-third of the sown acreage. 5/ The attitude of scientists on the importance of grasses in Soviet agriculture is reflected in the following excerpts from the previously mentioned research study by the Academy of Sciences, USSR: 6/

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"...in the future the acreage of forage grasses must be considerably increased in the republics and natural farming areas...The development of clover planting in the non-chernozem belt of the RSFSR does not require any costly measures...In these areas clover growing represents practically the main step in raising the yield of all crops and raising the level of agricultural production. In Byelorussia, the smallness of the clover acreage is undoubtedly blocking the progress of agricultural development...the acreage under grasses must be increased threefold in Byelorussia."

Grasses and clovers serve a beneficial purpose in crop rotations in most areas. They help to maintain the fertility and structure of the soil. Grasses and clover provide a cheap source of livestock feed, and their labor and machinery requirements are generally much less than for cultivated crops. In the USSR, where lack of sufficient investment in fertilizers has long handicapped agriculture, grasses and clovers have contributed significantly toward soil fertility. For example, the podsol soils of the non-black soil zone in Northwestern USSR are generally waterlogged and infertile, but can be made to produce relatively good yields with grass-clover rotations and fertilizer-lime applications.

#### Future Consequences

In spite of Khrushchev's vigorous attack on the ley system he apparently has not advocated the complete abandonment of grasses and clovers. In the future, however, their use in the crop rotation will be limited to a single year with the area released to be planted in cultivated crops--corn, sugar beets, peas, and field beans.

Khrushchev has threatened to expel agricultural officials and scientists from the Communist Party unless the grassland system is abandoned. Nevertheless, there apparently is resistance among Soviet agricultural specialists to Khrushchev's recommendations. In a letter published--and editorially refuted--in the Party's agricultural newspaper, Selskaya Zhizn, a Russian agronomist <sup>7/</sup> pointed out that under the present state of technology the ley system was serving a useful purpose in Soviet agriculture. He said that with the lack of mineral fertilizers, cultivating machinery, specialized harvesting machinery, trucks and tractors, the sowing of perennial grasses and clovers proved to be the most economical crop which provided feed while at the same time returning badly needed nitrogen to the soil. He also contended that grass rotations make possible a more efficient use of labor and equipment because the harvest of grass and clover does not coincide with that of other crops.

Apparently local leaders are to study the problems of clean fallow, grasses and clovers, and make applications on the basis of local conditions. However, the "suggestions" or urgings of Khrushchev along such courses have a tendency to become de facto law. The changes which he set in motion are sometimes carried to extremes by lesser agricultural officials. The pressure on these officials to increase production or lose their positions, may cause them to take action which would be to the long-run disadvantage of agriculture.

Khrushchev has urged local leaders to "take risks" and reduce the area in clean fallow in an area where crop production is already a hazardous venture. There are indications that farm directors and

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officials have already begun to think over the political advantages of accepting Khrushchev's suggestions. All farms in Altay Kray are reportedly "going over to the row crop system" (i.e., eliminating clean fallow) and will increase the area in corn, peas and beans without reducing the sown area in wheat. 8/ Oblasts in both the black and non-black soil zones have recently revised cropping plans to reduce or eliminate grassland and fallow, and to increase the area under wheat, corn, peas, sugar beets, and field beans. 9/

It, therefore, appears likely that the area devoted to cultivated crops in the Soviet Union will be substantially increased in 1962. The largest part of the increase will very likely be due to a considerable decrease in sown area in grasses, but a portion of the increased area in cultivated crops may also be due to a reduction in clean fallow.

The immediate effect of this radical alteration of USSR cropping patterns could well be a considerable increase in agricultural production in 1962--barring unfavorable weather conditions. In subsequent years, if Soviet agricultural officials adopt without due caution the farming practices recommended by Khrushchev, yields can be expected to decline.

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